

LONGICORN BEETLES (CERAMBYCINAE, PRIONINAE : CERAMBYCIDAE) OF BUXA TIGER RESERVE, JALPAIGURI, WEST BENGAL¹

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(With twelve text-figures)

Key words: Taxonomy, Cerambycidae, Cerambycinae, Prioninae, Buxa Tiger Reserve, West Bengal

The paper deals with the taxonomy of 12 species of Cerambycidae (Cerambycinae and Prioninae) of Buxa Tiger Reserve. Of these, 7 species *Ceresium leucosticticum* White, *C. rufum* Lameere, *Hoplocerambyx spinicornis* Newman, *Macrotoma (Zoobrax) spinosa* (Fabricius), *Tetraommatus filiformis* Perroud, *Thranis simplex* Gahan and *Xoanodera regularis* Gahan, are new records from the state of West Bengal. The species have been described and suitably illustrated. Identification keys are provided wherever necessary.

INTRODUCTION

Family Cerambycidae refers to the longhorn beetles. These coleopterans are wood borers in their larval stages, for which they are extremely important in any forest ecosystem. Because of their great economic importance, these beetles have received serious attention. Up to 1200 species of cerambycids are reported from the Indian region, largely dominated by the Lamiinae (Beeson, 1961). The systematics, biology and ecology of these beetles have been worked out. Khan and Maiti (1983) while dealing with the biotaxonomy, biology and ecology of some of these borers have reviewed the works of others, e.g. Stebbing, Beeson, Beeson and Bhatia, Husain and Khan, Bhasin and Roonwal, Bhasin *et al.*, and Dutt. Basak and Biswas (1993) have remarked "our present state of knowledge of longicorn beetles of the state of Orissa is very incomplete and fragmentary", and "no comprehensive work on the longicorn beetles from Orissa is available". They, however, listed 32 species belonging to 27 genera under 3 subfamilies as the cerambycid fauna of Orissa. Though they indicated the distribution of some of these species in West Bengal, recent State

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Our survey of Buxa forest, presently known as Buxa Tiger Reserve (Jalpaiguri, West Bengal) during 1994-97 revealed the existence of 12 species of longhorn beetles (Cerambycinae; Prioninae) belonging to 11 genera. Raychaudhuri (1996) had reported 10 species belonging to 10 genera of the same subfamilies from the forest. Besides, we have several species of lamiids in our collection. We now present the taxonomic details of the beetles belonging to the subfamilies Cerambycinae and Prioninae. Incidentally, Basak and Biswas (1993) have not presented any taxonomic key or detailed description of the 32 listed species. Such a taxonomic treatise is necessary for India, as several decades have elapsed since the publication of Gahan (1906). This paper details the morphology of each species, together with keys, even of the higher categories. All the species have been illustrated. *Ceresium leucosticticum* White, *C. rufum* Lameere, *Hoplocerambyx spinicornis* Newman, *Macrotoma spinosa* (Fabricius), *Tetraommatus filiformis* Perroud, *Thranis simplex* Gahan and *Xoanodera regularis* Gahan appear to be new records from the state of West Bengal.

All the reported species are at present in the collection of Entomology Laboratory, Department of Zoology, University of Calcutta.

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MATERIAL AND METHODS

Insect samples have been collected and preserved for further study following the recommendations of Zoological Survey of India, Calcutta (Ghosh and Sengupta, 1982).

Abbreviations used:

BG	-	Bhutanghat
B.T.R.	-	Buxa Tiger Reserve
DM	-	Damanpur
EL	-	Length of elytra
EW	-	Humeral width of elytra
FA	-	Apical width of frons
FL	-	Length of frons
HW	-	Maximum width of head
JY	-	Jayanti
LT	-	Light trap
NL	-	Newland
NM	-	Nimati
PA	-	Apical width of pronotum
PB	-	Basal width of pronotum
PK	-	Phaskhawa
PL	-	Length of pronotum
PN	-	Panbari
PW	-	Maximum width of pronotum
RB	-	Rajabhatkhawa
RM	-	Raimatang
SB	-	South Bholka
SR	-	South Raydak
TG	-	Tashigaon

TAXONOMY

Key to Subfamilies, Tribes and Genera

- I. Prothorax marginate at sides, sometimes entire, more frequently dentate or spinose; fore coxae strongly transverse; antennae usually inserted close to mandibular base; mesonotum without stridulatory area (except in *Philus*); vein Cu2 usually present; vein A1 with a large subelliptical cell Prioninae
- A. Episterna of metathorax with posteriorly converging sides, narrowly truncate or obtusely pointed at apex; intercoxal process of prosternum arched; lateral margins of prothorax unarmed or with 1-3 spines or teeth; antennal joints spinose; 1st antennal joint short Megopidini, *Megopis* Serville

- Episterna of metathorax parallel-sided for greater part of their length, broadly truncate behind; intercoxal process of prosternum flat and horizontal; lateral margins of prothorax crenulate, denticulate or spinulose; antennal joints not spinose, if at all with short spines; 1st antennal joint long or moderately long Macrotomini, *Macrotoma* Serville
- Prothorax emarginate at sides; fore coxae rarely strongly transverse; antennae inserted at some distance from base of mandibles; mesonotum generally with stridulatory area; veins Cu2 and branch of Cu1 usually absent; vein A1 mostly without any cell Cerambycinae
- A. Intercoxal process of prosternum not or weakly dilated at apex a
- a. Ligula corneous; antennae never ciliated but may have long pubescence; vein Cu2 absent Oemini
- al. Head flat between antennae; 1st coxae contiguous; antennae never spinose or dentate *Tetraommatus* Perroud
- Head raised forming a ridge, broadly concave between antennae; 1st coxae separate; antennae dentate *Xystrocera* Serville
- Ligula membranous; antennae ciliated; either vein Cu2 or posterior branch of Cu1 absent Hesperophanini, *Stromatium* Serville
- Intercoxal process of prosternum distinctly dilated at apex B
- B. Acetabula of fore coxae closed or nearly closed posteriorly, rarely angulated on outer side i
- i. Metasternum with scent-pores; acetabula of middle coxae extended to epimera Callichromini, *Anubis* Thomson
- Metasternum without scent-pores; acetabula of middle coxae open to epimera Cerambycini
- al. Pronotum transversely irregularly wrinkled with broken ridges; elytra with a spine at sutural apex; 1st joint of hind tarsus nearly as long as the next two united *Hoplocerambyx* Thomson
- Pronotum without ridge, instead either transversely grooved near base and apex or with variable number of sharp, straight, longitudinal costae; elytra without spine at sutural apex; 1st joint of hind tarsus shorter than next two united *Xoanoderia* Pascoe

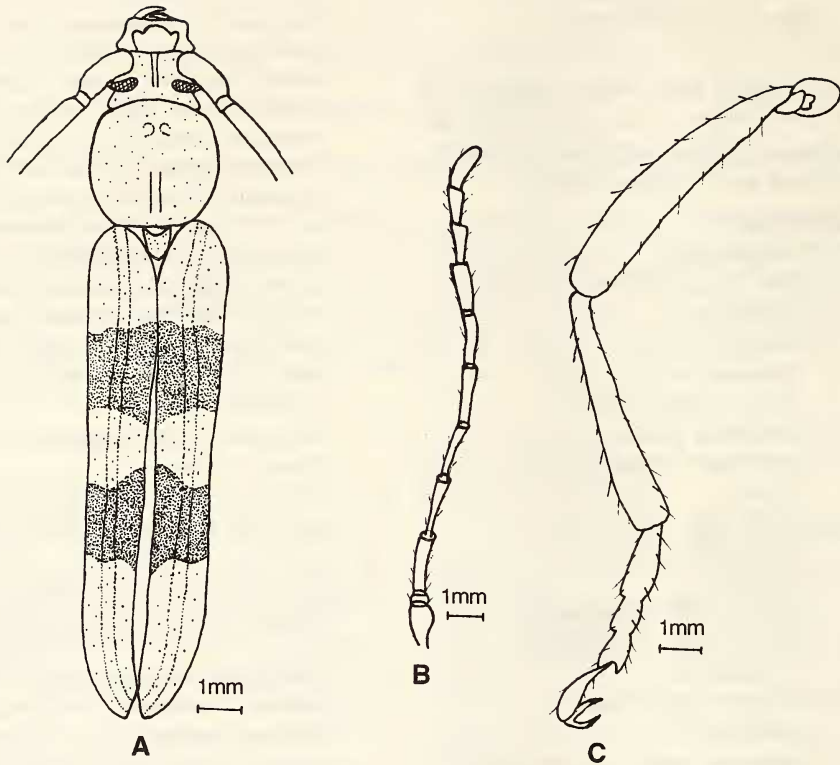


Fig. 1: *Anubis inermis* (White): A. Whole body, B. Antenna, C. Hind leg

- Acetabula of fore coxae open posteriorly, angulated on outer side ii
- ii Eyes coarsely faceted
..... Callidiopsini, *Ceresium* Newman
- Eyes finely faceted iii
- iii. Elytra dehiscent posteriorly, acuminate at apex; front coxae prominent, contiguous; prothorax parallel-sided
..... Thranini, *Thranium* Pascoe
- Elytra neither dehiscent nor acuminate at apex; front coxae not prominent, globular and not contiguous; prothorax with sides weakly to distinctly rounded Clytini, *Xylotrechus* Chevrolat

Subfamily 1: Cerambycinae

Tribe: Callichromini

Genus: *Anubis* Thomson

Anubis, Thomson 1864, Syst. Ceramb. : 177.

Type-species: *Anubis clavicornis* Fabricius

Anubis inermis (White)

(Fig. 1)

Polyzonus inermis White 1853,
Cat. Coleopt. B.M., Longic.: 171.

Male: Head, antennal segment I, pronotum, scutellum, elytra at base and apex chalybeate blue, pronotal disc and elytra violaceous, elytra with a pair of yellow transverse bands, one just above the middle and the other just below the middle, antennae and legs blue-black; body beneath clothed with silvery grey pubescence.

Head at base narrower than pronotum, much narrowed beyond eyes, densely and coarsely punctate; vertex flat; frons midlongitudinally sulcate between the antennae; clypeus broad, flat, transverse; HW/PA 1.11; FA/FL 0.46;

mandibles robust, weakly curved, strongly dentate; genae long, midlongitudinally faintly raised, sloped on either side; eyes deeply emarginate, extending beyond antennal support. Antennae 11-segmented, a little longer than body, gradually swollen apically, segment III longest, last segment longer than the penultimate, obtuse at apex. Pronotum ovate cylindrical, longer than broad, lateral margin rounded, basally nearly straight, apically a little constricted, densely and coarsely punctate; PL/PA 1.52, PL/PW 1.0, PB/PA 1.0, PB/EW 3.09. Scutellum small, triangular and obtuse, finely and rather densely punctate. Elytra long, parallel-sided, rounded at apex, finely and very densely punctate, those near base large and distinct, a pair of costae evidently running from the middle of the base almost to apex; EL/EW 18.18; metasternum midlongitudinally sulcate and free of pubescence; abdominal venter at sides with more dense pubescence. Legs moderately long, femora pedunculate, gradually subclavate, densely punctate, joint 1 of hind tarsi longer than 2+3.

Body length: 13-17 mm.

Material examined: 1 male, PK, B.T.R., Jalpaiguri, West Bengal, 9.v.1994.

Distribution: INDIA: Sikkim, West Bengal; Laos; Malaysia; Myanmar; Pakistan; South China; Thailand (Gahan, 1906; Gressitt and Rondon, 1970).

Tribe: Callidiopsini

Genus: *Ceresium* Newman

Ceresium Newman, 1842. Entomologist, i: 322.

Type-species: *Ceresium raripilum* Newman

KEY TO SPECIES

1. Elytra with yellow-white pubescence, 1st pair oblique, near scutellar apex, 2nd round, transverse, marginal, 3rd oblique, close to suture and 4th comma-shaped, transverse, marginal near apex; head without any pubescence near base; body brown-black;

antennae twice as long as body
 *leucosticticum* White
 — Elytra without any such pubescence; head with yellow-white pubescence between eyes near base; body reddish brown; antennae a little shorter than body *rufum* Lameere

Ceresium leucosticticum White

(Fig. 2)

Ceresium leucosticticum White, 1855, Cat. Col. B.M. Longic. 2: 245.

Male: Brown black, with elytra centro-medially reddish, pronotum laterally with 2 pairs of yellow white pubescence, 1st pair near apex, other pair almost basal, scutellum with similar pubescence, elytra also with similar pubescence arranged thus: 1st pair near scutellar apex, rather oblique, broad distally, 2nd pair at basal 1/3, transverse, circular, placed marginally, 3rd almost at midlength, near the suture, oblique, directed towards apex, 4th near the turning of elytra, transverse, marginal, comma-shaped, directed towards apex, eyes at inner margin with semilunar band of similar pubescence; antennae reddish brown, with faint pubescence; legs reddish brown with femora apically darker; body ventrally red brown to dark brown, with yellow white pubescence laterally.

Head a little narrower than pronotum, densely punctate, concave between antennae; frons midlongitudinally sulcate; vertex sloped towards eyes, anteriorly truncate; clypeus transverse, band-like; HW/PA 1.16; FA/FL 0.9; eyes emarginate. Antennae 11-segmented, slender, twice as long as body, 1st joint closely punctate, little longer than 3rd, nearly equal to 4th, 5th and following segments longer, 10th twice as long as 11th. Pronotum elongately rectangular, longer than wide, marginally rounded, medially broad, densely and coarsely punctate, clothed with short hairs; PL/PA 1.15, PL/PW 1.15, PB/PA 0.93, PB/EW 1.40. Scutellum small, obtuse. Elytra parallel-sided, narrowed just before the truncate apex, densely

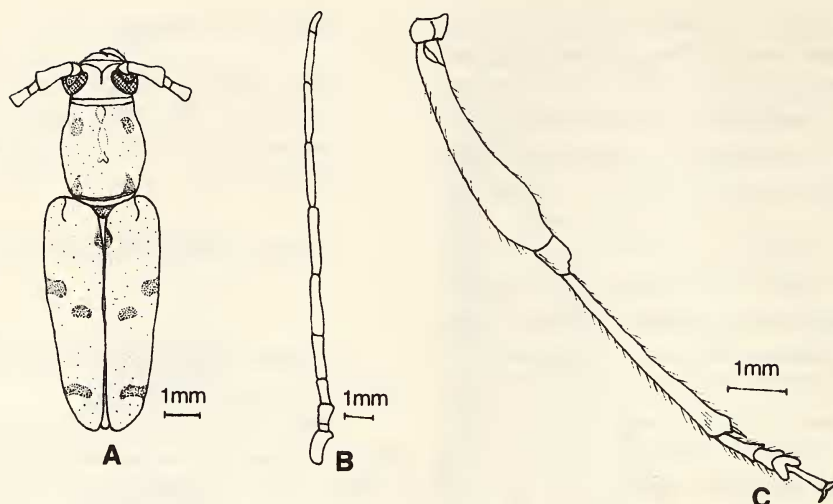


Fig. 2: *Ceresium leucosticticum* White: A. Whole body, B. Antenna, C. Hind leg

punctate, clothed with short hairs; EL/EW 5.35; prosternum truncate, punctate; metasternum plate-like, midlongitudinally with a black streak. Legs moderately long, femora basally pedunculate, apically clavate, hind legs extending much beyond the abdomen.

Body length: 12 mm.

Material examined: 2 males, RB(LT), B.T.R., Jalpaiguri, West Bengal, 22.v.1995, 25.v.1995.

Distribution: INDIA : Assam (Gahan, 1906), West Bengal; Indonesia; Laos; Myanmar; South China; Thailand (Gahan, 1906; Gressitt and Rondon, 1970).

***Ceresium rufum* Lameere**
(Fig. 3)

Ceresium rufum Lameere, 1890, Ann. Soc. Ent. Belge, 34, C.R. : cc 11.

Male: Reddish brown, densely pubescent, head with 2 white semilunar bands of pubescence, pronotum with such pubescence submarginally, anterior ones round, posterior ones rather elongate and longitudinal, extending a little on the basal margin, scutellum with similar pubescence, elytra without any such,

antennae reddish brown, 9th joint onwards much darker, legs reddish brown, body ventrally red brown with white pubescence laterally.

Head narrower than pronotum, anteriorly narrowed, densely punctate; frons concave, midlongitudinally sulcate, anteriorly subquadrate; vertex sloped towards eyes, anteriorly truncate; clypeus transverse, band-like, truncate; HW/PA 1.12, FA/FL 0.69; eyes emarginate. Antennae 11-segmented, slender, a little shorter than body; 4th joint much shorter than any of the succeeding joints, hairy beneath. Pronotum elongately rectangular, longer than wide, marginally rounded, broad medially; pronotal disc with dense, coarse, transverse rugosities, clothed with short hairs; PL/PA 1.25, PL/PW 1.00, PB/PA 1.04, PB/EW 2.06. Scutellum small and obtuse. Elytra parallel-sided, narrowed just before the truncate apex, strongly punctate, those towards apex feeble and scanty, clothed with short, dense hairs; EL/EW 8.31; prosternum truncate, punctate; metasternum plate-like, midlongitudinally with a black streak. Legs moderately long, clothed with rather long pubescence, femora basally pedunculate, apically clavate, hind legs extending much beyond the abdomen.

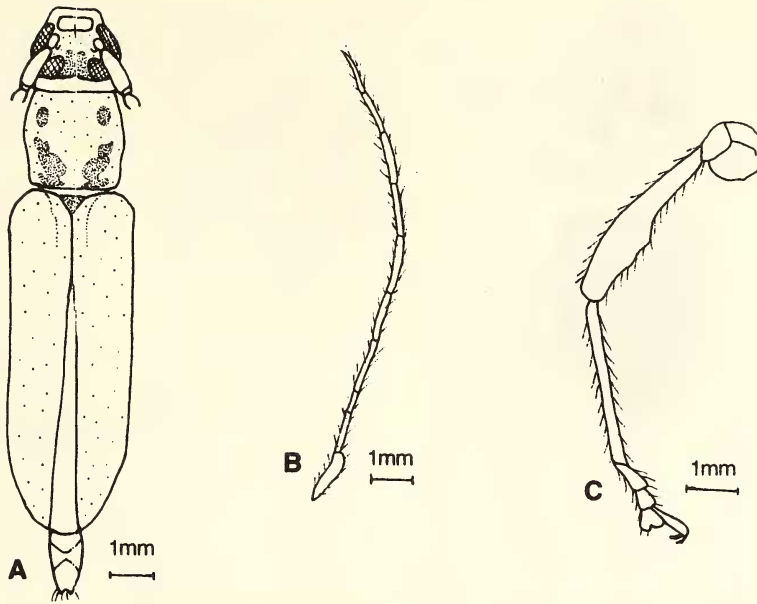


Fig. 3: *Ceresium rufum* Lameere: A. Whole body, B. Antenna, C. Hind leg

Body length: 13 mm.

Material examined: 1 male, SB(LT), B.T.R., Jalpaiguri, West Bengal, 21.v.1997.

Distribution: INDIA: Kunbur (Gahan, 1906), West Bengal; Myanmar (Beeson, 1961).

Tribe: Cerambycini

Genus: *Hoplocerambyx* Thomson

Hoplocerambyx Thomson, 1864, Syst.

Ceramby.: 229.

Type-species: *Hammaticherus spinicornis* Newman

Hoplocerambyx spinicornis (Newman)
(Fig. 4)

Hammaticherus spinicornis Newman, 1842, Entomologist, 1: 245.

Male: Pitch brown, ventrally more reddish; head, pronotum, antennae, legs and underside with fine grey pubescence, elytra more densely covered with red-ochraceous silky pubescence, faintly banded light and dark.

Head strongly exserted, apically finely

punctate, basally wrinkled, with the vertex deeply grooved medially, extending between the eyes, continuing as a shallow groove between antennal supports, carinate on either side; frons oblique with a fovea on each side; clypeus apically sinuate, basal submedian area bi-tuberculate, sloping towards the frontal fovea with a few long, grey hairs at the corners; genae long; slightly shorter than width of pronotum; HW/PA 1.22; FA/FL 0.50; mandibles longer than in female, straight at base; eyes deeply emarginate, not extending beyond the antennal supports; gula with 3 strong transverse ridges. Antennae 11-segmented, 1/5 to 1/3 longer than body, faintly pubescent, 1st to 7th segments sparsely but strongly punctate, 3rd segment onwards spinose, 8th segment onwards gradually shortened and almost weakly so on the last segment, flattened or slightly canaliculate above. Pronotum a little longer than broad, constricted in front, rounded at the sides between the anterior constriction and the base; the disc with a slightly raised oblong space in the middle, the rest of the surface with deep, irregular, transverse wrinkles, with the

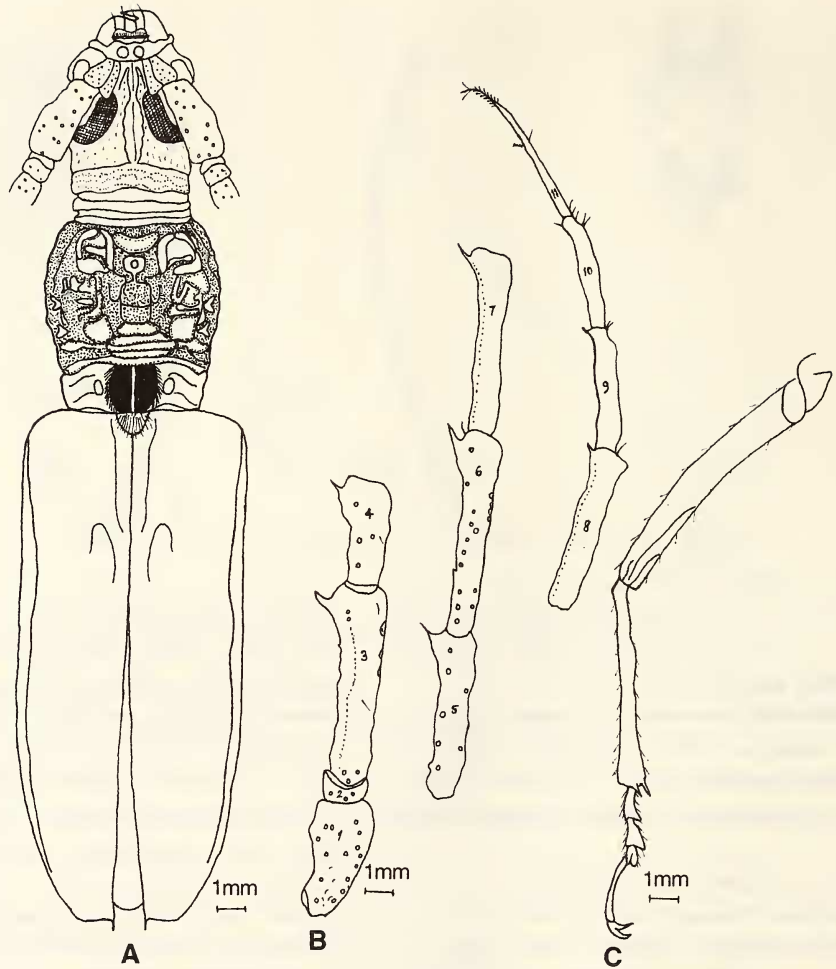


Fig. 4: *Hoplocerambyx spinicornis* Newman: A. Whole body, B. Antenna, C. Hind leg

ridges more or less broken and convolute towards the sides, at base with 2 transverse ridges continuing up to the margin; PL/PA 1.22, PL/PW 0.79, PB/PA 1.14, PB/EW 1.34. Scutellum pitch brown, small and broadly triangular, with grey pubescence. Elytra with a slight elevation close to the suture at about 1/4 of their length; each elytron convex, narrow posteriorly, obliquely truncate at apex, with a spine at suture and a feeble tooth at outer angle, the surface (where rubbed bare of pubescence) with 2 kinds of punctures, some minute and very dense, others larger and less numerous, suture just below the

scutellum reflexed; EL/EW 5.39; prosternum very sparsely scattered with punctures, moderately pubescent, with hind margin of epipleural process moderately arcuate. Venter of meso- and metathoracic segments hardly punctate, clothed with silky grey pubescence, metasternum midlongitudinally sulcate, abdominal venter with fine silky pubescence. Legs moderately long and stout; femora slightly compressed, hind pair scarcely reaching the elytral apex, gradually swollen apically and widest at apical 3/5; hind tibia long and slender; hind tarsi 1 as long as 2+3; claw-bearing joint of

the tarsi long and paronychium nearly always distinctly visible between the claws.

Body length: 32-51 mm.

Material examined: 2 males, PN, B.T.R., 20.v.1995; 1 male, RB, B.T.R., 20.v.1995; 1 female, DM, B.T.R., 23.v.1995; 2 males, JY(LT), B.T.R., 24.v.1995, 25.v.1995; 1 male, RB(LT), 16.ix.1996; 1 male, SB, B.T.R., 20.v.1997; 1 male, NM, B.T.R., 21.v.1997. All from Jalpaiguri, W.Bengal

Distribution: INDIA: Assam, Uttar Pradesh (Gahan, 1906), Gujarat, Karnataka, Maharashtra, Rajasthan (Beeson, 1961), Bihar, Madhya Pradesh, Orissa (Basak and Biswas, 1993), West Bengal; Afghanistan; Indonesia; Laos; Malaysia; Myanmar; Nepal; The Philippines; Singapore; Sunda Island (Gahan, 1906; Gressitt and Rondon, 1970).

Genus: *Xoanoder* Pascoe

Xoanoder Pascoe, 1857, Ent. Soc. (2) iv : 92.

Type-species: *Xoanoder trigona* Pascoe

Xoanoder regularis Gahan

(Fig. 5)

Xoanoder regularis Gahan, 1890, A.M.N.H. (6) V : 52.

Male : Dark brown, head, pronotum and elytra (greater part) with dense yellowish-brown pubescence, elytra at base with a ring-like dark brown band encircling the scutellum and a lateral area from the shoulders extending a little beyond the middle dark brown, devoid of dense pubescence; the narrow border between submarginal carina and outer margin sparsely pubescent. Head and 1st antennal joint closely

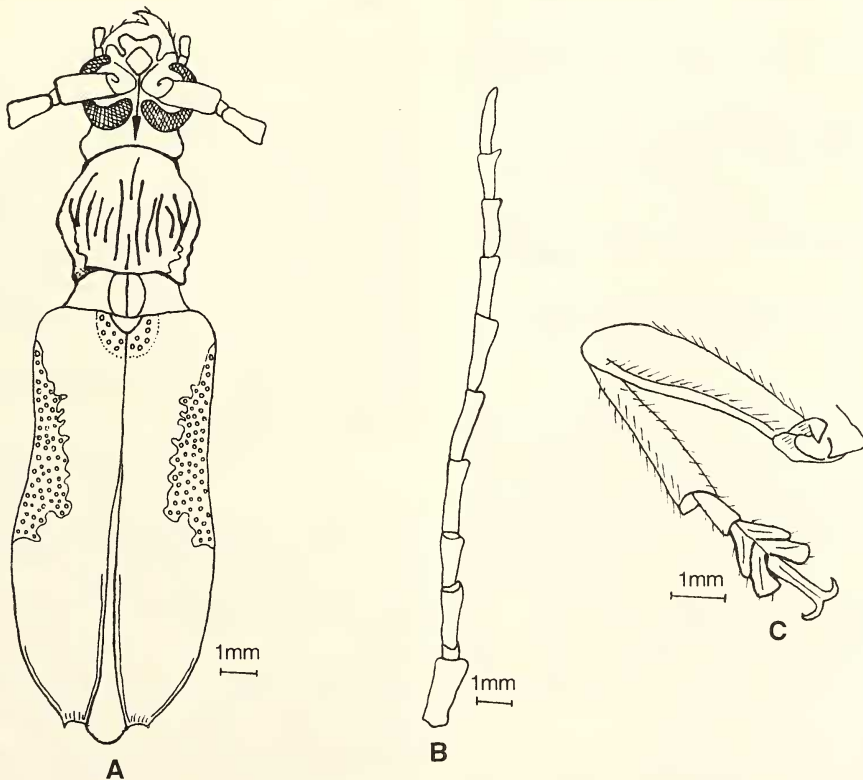


Fig: 5: *Xoanoder regularis* Gahan: A. Whole body, B. Antenna, C. Hind leg

rugulose-punctate. Antennae reddish brown, with a faint covering of grey pubescence. Pronotum strongly and irregularly ridged, scantily clothed with patches of tawny pubescence, laterally with a dense, yellowish brown pubescence. Thoracic and abdominal sternites rather densely covered with greyish white pubescence, legs less so.

Head shorter and narrower than pronotum, broadest across eyes, anteriorly sloped, medially raised, posteriorly weakly sloped to a little beyond the eyes, medially with a deep longitudinal sulcus, 2 such on either side of the median, or just behind the antennal socket; vertex densely punctate, and entirely covered by pubescence; frons medially lobed, enclosed by a deep circular sulcus, anterolaterally broadly produced, truncate; clypeus broadly rectangular; HW/PA 1.20; FA/FL 0.50; mandibles broad at base, curved, bluntly pointed at apex, with lateromedian depression, outer margin reflexed up to a little beyond the middle; eyes large, deeply emarginate, extending almost to the frontal sulcus, closely approximated above, with a narrow space in between. Antennae 11-segmented, a little shorter than body, densely covered by minute pubescence; 5th to 10th joints sharply edged in front and acutely angulated at apex, 11th shorter than 10th. Pronotum as long as broad, sides unevenly rounded, apex with 1 and base with 2 transverse grooves; PL/PA 1.44, PL/PW 0.90, PB/PA 1.17, PB/EW 1.66. Scutellum obtuse, with dense pubescence. Elytra parallel-sided, narrowed near apex, posterior submarginal carina with apex truncate and feebly bidentate; EL/EW 6.75; prosternum raised between coxae, sharply deflexed posteriorly, and dilated at the end to meet the epimera, acetabula of front coxae not angulated outwards. Legs moderately long, femora carinate on each side near their lower portions; 1st joint of hind tarsus shorter than the next 2 united.

Body length: 20-21 mm.

Material examined: 2 males, SR, Jalpaiguri, West Bengal, 5.iv.1993.

Distribution: INDIA: North India?, West Bengal; Laos; Myanmar (Gahan, 1906; Gressitt and Rondon, 1970).

Tribe: Clytini

Genus: *Xylotrechus* Chevrolat

Xylotrechus Chevrolat, 1860, Ann. Soc. Ent.

Fr. : 456.

Type-species: *Xylotrechus sartorii* Chevrolat

Xylotrechus smei (Lap. et Gory)

(Fig.: 6)

Clytus smei Lap. et Gory, 1841, Hist. Nat. et Iconogr. des Ins. Coleopt. : 37.

Male: Black, head and most of pronotum with olive green and yellowish pubescence, such pubescence on elytra forming bands and spots; pronotal disc with 3 black spots, one centrally near base, the other two very near the middle, but a little marginal; elytral bands and spots are as follows: 1) elongately circular yellow band, with the outer margin rather narrow, a little discontinuous near the scutellar apex enclosing (2) a transverse marginal yellow broad band extending to the shoulder hump and narrowing towards the suture, (3) midposteriorly with a transverse yellow band at sutural margin, broad, narrowed towards the margin, (4) apical yellow band broad at apex and narrowed in front with the margin oblique; venter with bands or spots of whitish pubescence.

Head a little narrower than pronotum, anteriorly sloped; vertex flat with a median longitudinal carina bifurcating anteriorly; frons with 4 carinae, outer ones strongly curved inwardly, median ones nearly parallel-sided, anteriorly united; clypeus transverse, ridged; HW/PA 1.28; FA/FL 0.58. Antennae shorter than half the body, 1st joint equal to 3rd, 3rd to 5th subequal, 6th to 10th gradually shorter. Pronotum nearly squarish, a little longer than wide, with lateral margins rounded, broadest just below the middle, medially raised; PL/PA 1.35,

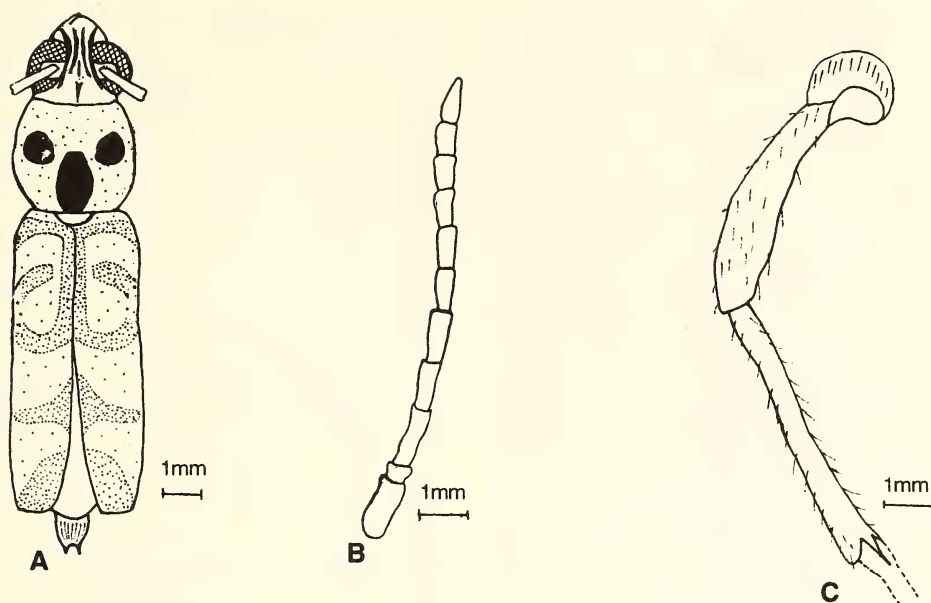


Fig. 6: *Xylotrechus smei* (Lap. et Gory): A. Whole body, B. Antenna, C. Hind leg

PL/PW 0.90, PB/PA 1.0, PB/EW 2.33. Scutellum small, broad, semilunar, densely clothed with white pubescence. Elytra weakly narrowed at apex and truncate apically; EL/EW 8.66; prosternum produced and truncate, metasternum plate-like, midlongitudinally with one black sulcus, basally and apically with transverse bands of white pubescence. Legs moderate, femora thick, hind pair of legs extending a little beyond abdomen, 1st joint of hind tarsus about twice as long as the next two joints united.

Body length: 15 mm.

Material examined: 1 male, SR, B.T.R., Jalpaiguri, West Bengal, 5.iv.1993; 1 male, RB(LT), B.T.R., Jalpaiguri, West Bengal, 20.v.1995.

Distribution: INDIA: Assam, Orissa, West Bengal, North, West, Central and South India (Gahan, 1906), Bhutan; Myanmar; Sri Lanka (Gahan, 1906; Beeson, 1961; Basak and Biswas, 1993).

Tribe: Hesperophanini

Genus: *Stromatium* Serville

Stromatium Serville, 1834, Ann. Soc. Ent.

Fr.3: 80.

Type-species: *Callidium barbatum* Fabricius

***Stromatium barbatum* (Fabricius)**

(Fig. 7)

Callidium barbatum Fabricius, 1775, Syst. Ent. : 189.

Male: Red brown to a little darker; faintly covered with orange brown pubescence, 1st joint of antennae brown black, rest red brown, apical segments a little darker.

Head at base narrower than pronotum, densely and rather coarsely punctate, longitudinally sulcate between the antennae; clypeus short, transversely depressed, anteclypeus leathery; HW/PA 1.19, FA/FL 0.69; mandible short, oblique; eyes rather deeply emarginate, with large lower lobe, extending

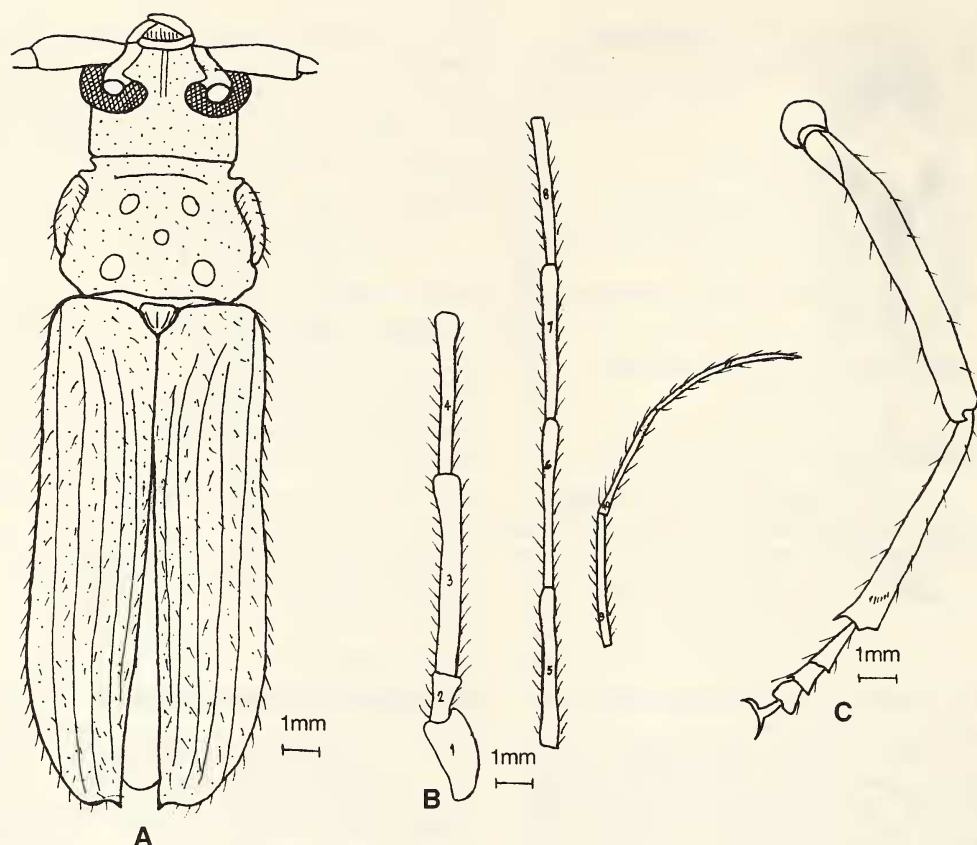


Fig. 7: *Stomatium barbatum* (Fabricius): A. Whole body, B. Antenna, C. Hind leg

anteriorly almost up to the genal edge; antennal tubercles posteriorly raised and bluntly pointed. Antennae 11-segmented, about 1/3 longer than body, with long silky pubescence beneath, 3rd joint longest, 4th slightly shorter than 5th. Pronotum broader than long, subquadrate, with numerous strong coarse punctures; the disc with 5 slightly raised, less distinct tubercles, 2 placed anteriorly, 1 behind middle, and 2 near base, straighter and each marked with a large depression; PL/PA 1.0, PL/PW 0.74, PB/PA 1.0, PB/EW 1.85. Scutellum broadly triangular, with a midlongitudinal depression forming 2 weakly raised lobes on either side. Elytra nearly parallel-sided, narrowed and truncate at apex, coarsely and very densely punctured, each with 2 distinct

dorsal and 1 lateral costae, a short sutural tooth at apex; EL/EW 6.57; prosternum weakly sloped at apex. Venter of meso- and metathorax truncate, covered with pubescence, metathoracic plate with median longitudinal black streak; abdominal venter punctate, laterally with rather dense pubescence, medially weakly so. Legs moderately long, femora compressed, fore tibiae very broad a little below the base and gradually narrowed outwards, the middle and hind pairs gradually widened up to the middle; the hind pair nearly reaching elytral apex; 1st joint of the hind tarsus subequal to 2+3, last tarsus with distinct paronychium.

Body length: 21-23 mm.

Material examined: 1 female, RB(LT),

B.T.R., 20.v.1995; 1 male, RM, B.T.R., 30.v.1996; 1 male, NL, B.T.R., 17.v.1997; 1 male, SB(LT), B.T.R., 19.v.1997. All from Jalpaiguri, West Bengal.

Distribution: INDIA: All over; Africa; Bangladesh; Islands of Reunion; Rodriquez & Seychelles; Pakistan; Malagasy Rep.; Mauritius; Myanmar; North America; Sri Lanka (Gahan, 1906; Beeson, 1961 Khan and Maiti, 1983); England (Beeson, 1961).

Tribe: Oemini

Genus: *Tetraommatus* Perroud

Tetraommatus Perroud, 1855, Ann. Soc. Linn. Lyon (2) ii:390.

Type-species: *Tetraommatus filiformis* Perroud

***Tetraommatus filiformis* Perroud**
(Fig. 8)

Tetraommatus filiformis Perroud, 1855, Ann. Soc. Linn. Lyon (2) ii : 391.

Male: Head, pronotum reddish brown; elytra brown; antennae yellow brown, legs yellow.

Head narrower than pronotum, narrowed at both ends, broadest medially, flat, raised between the antennal sockets, densely and coarsely punctate, sparsely hairy; clypeus transverse, band-like; HW/PA 1.40; FA/FL 0.75; mandibles dark brown, robust, strongly curved, apically broad and truncate; eyes large, deeply emarginate; gula indicated, apically narrowed. Antennae 11-segmented, as long as body, segment III onwards subequal, each at least twice of segment I, sparsely setose. Pronotum subcylindrical, basally broad, anteriorly narrowed, lateral margin sharply rounded towards apex, constricted near base, transversely sulcate striate near middle, densely and finely punctate, sparsely setose; PL/PA 1.40, PL/PW 0.87, PB/PA 1.53, PB/EW 1.76. Scutellum short, broad and obtuse. Elytra parallel-sided, sharply curved towards apex, apically blunt, punctate-striate, sparsely setose; EL/EW 5.70; prosternum between fore coxae short, metasternum medially raised, midlongitudinally with a black sulcus. Legs moderately long, intercoxal part of prosternum very short, front coxae contiguous,

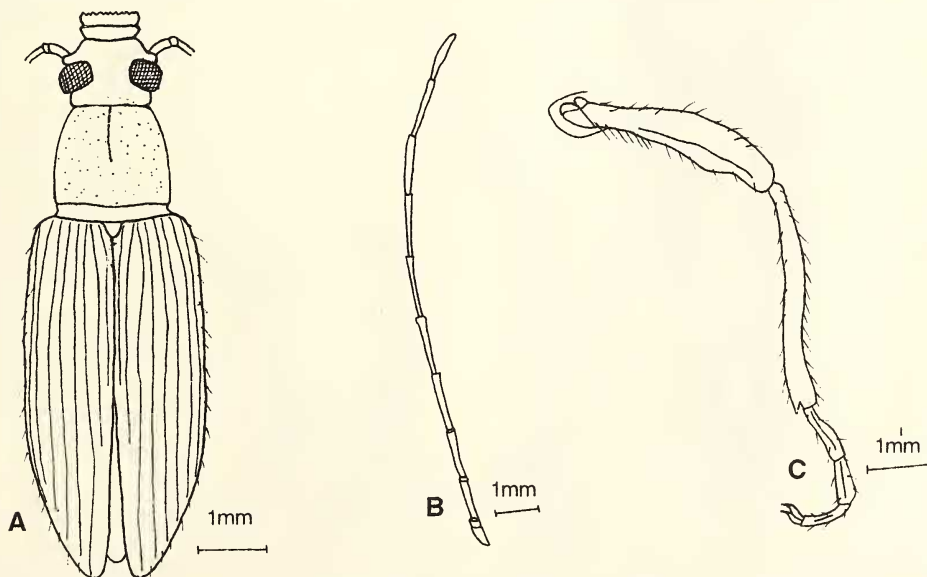


Fig. 8: *Tetraommatus filiformis* Perroud: A. Whole body, B. Antenna, C. Hind leg

with acetabula angulate outwardly and open posteriorly, middle coxae almost contiguous, femora rather long, pedunculate, apically clavate and darker, basally curved, laterally compressed towards apex; tibia basally dark; tarsi long and narrow; 1st joint subequal to the following 3 joints.

Body length: 7-9 mm.

Material examined: 1 male, BG, B.T.R., 25.v.1995; 3 males, TG, B.T.R., 26.v.1996; 2 males, RM, B.T.R., 30.v.1996. All from Jalpaiguri, West Bengal.

Distribution: INDIA: Pondicherry (Gahan, 1906; Beeson, 1961), West Bengal; Sri Lanka (Gahan, 1906 ; Beeson, 1961).

Genus: *Xystrocera* Serville

Xystrocera Serville, 1834, Ann. Soc.

Ent. Fr. 3: 69.

Type-species: *Xystrocera globosa* (Olivier)

***Xystrocera globosa* (Olivier)**

(Fig. 9)

Cerambyx globosa Olivier, 1795, Entomologist, 4 (67) : 27.

Male: Reddish brown; pronotum with green metallic bands: along the anterior and posterior margins, midlongitudinally but narrow, and laterally running oblique, joining the fore and hind bands; elytra testaceous yellow, with green metallic bands: the median longitudinal extending obliquely from base, over the shoulder almost to the tip, the outer running from base and at apex turning along the apical margin; head with 2 such rounded spots on either side of the median sulcus of the vertex.

Head at base narrower than pronotum, vertical in front, raised, forming ridges, broadly concave from side to side, between the antennae, densely punctate; antennal supports emarginate in front, acutely pointed on the inner side; vertex densely punctate, midlongitudinally sulcate,

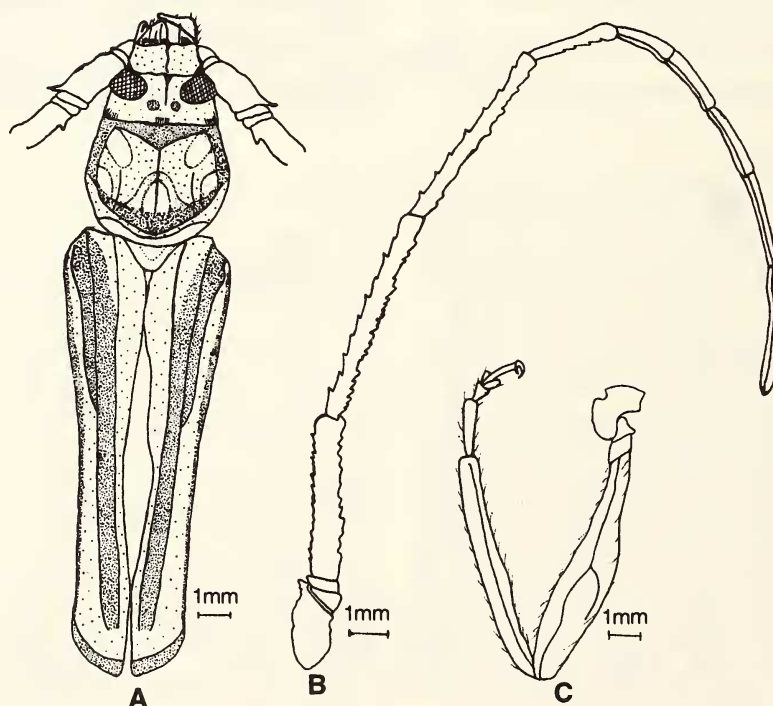


Fig. 9: *Xystrocera globosa* (Olivier): A. Whole body, B. Antenna, C. Hind leg

continuing to the clypeus, laterally weakly emarginate; clypeus transverse, strongly ridged, anteclypeus membranous, postclypeus separated from the front by a transverse groove; HW/PA 1.50; FA/FL 0.83; mandible basally straight, apically turned at right angles, knobbed at point of turning; eyes large, deeply emarginate, the lower lobes extended close to the mandibular edge of the genae. Antennae 11-segmented, about 1/3 to twice as long as the body, first 4 joints strongly warty, margins with blunt spines, these in distal segments greatly reduced and finally obsolete; 1st joint asperate at apex with spines, 3rd to 5th strongly asperate, with the apices thickened and dentate beneath; 3rd joint thicker and about 1/4 shorter than the 4th. Pronotum anteromedially convex, following the transverse depression (✓), otherwise weakly depressed medially, anterolaterally depressed on both sides, marginally rounded, base with rounded lobe at the middle, entirely strongly warty; PL/PA 1.06, PL/PW 0.85, PB/PA 0.69, PB/EW 3.41. Scutellum tongue-shaped. Elytra long, anteriorly broad, posteriorly narrowed, apex rounded, densely and strongly punctate; each with 3 slightly raised longitudinal striae - 2 dorsal and 1 lateral EL/EW 19.54; prosternum with transverse striate metallic glossy band, close to the front margin, the rest and the sides of the lower part of prothorax form a convexly raised, very minutely and densely punctate dull red area; mesosternum moderately broad, narrowed posteriorly and truncate at tip, metasternum plate-like, with a black median streak. Legs long, fore legs shorter; femora fusiform-clavate, compressed, pedunculate at base, hind femora long; tibiae compressed.

Body length: 23-26 mm.

Material examined: 2 males, RB(LT), B.T.R., Jalpaiguri, West Bengal, 26.v.1995.

Distribution: INDIA: Assam, Karnataka, Maharashtra, Tamil Nadu, West Bengal; Celebes; China; Egypt; Hawaiian Islands; Indonesia; Japan; Korea; Laos; Malaysia; Malagasy Rep.; Mauritius; Myanmar; Philippines; Pacific Island; Taiwan; Thailand; Sri Lanka (Gahan, 1906; Beeson, 1961;

Gressitt and Rondon, 1970; Khan and Maiti, 1983).

Tribe: Thraniini

Genus: *Thranius* Pascoe

Thranius Pascoe, 1859, Trans. Ent. Soc. (2) v : 22.

Type-species: *Thranius gibbosus* Pascoe

***Thranius simplex* Gahan**

(Fig. 10)

Thranius simplex Gahan, 1894, Ann. Mus. Civ. Genov., 34 : 15.

Male : Dark brown; head, thorax, abdomen, legs, antennae brown black; antenniferous tubercles, pronotum, scutellum reddish brown; clypeus anteriorly and maxillary palpi yellow.

Head narrower than pronotum, wide transversely, strongly sloped anteriorly. frons flat, subquadrate, midlongitudinally sulcate between the eyes, punctate, vertex transversely depressed below the eyes, clypeus transverse, rectangular, punctate; HW/PA 1.28; FA/FL 0.66; eyes rather transverse, long, weakly emarginate, with upper lobe short, not extending behind the antenniferous tubercles, lower lobe rather prominent inwardly. Antennae 11-segmented, shorter than body, joints cylindrical. 1st joint closely and rather finely punctate, apex rather pale. Pronotum parallel-sided, squarish, basal margin straight, anterior margin weakly concave, lateral margin weakly rounded, medially a little broad, midlongitudinally sulcate, strongly gibbose anteriorly, densely punctate; PA/PL 1.14; PL/PW 0.80, PB/PA 1.28, PB/EW 2.25. Scutellum small, obtuse, scantily punctured. Elytra elongate, almost flat above, deflexed at the sides, narrowed up to the middle, the surface densely punctate, with the front edges of the punctures slightly raised; EL/EW 8.37; prosternum punctate; metathoracic plate with a median longitudinal black streak, its episterna very broad in front, narrowed almost to a point posteriorly. Legs moderately long, femora clavate, with the 1st tarsal joint of hind legs a little longer than 2+3 united.

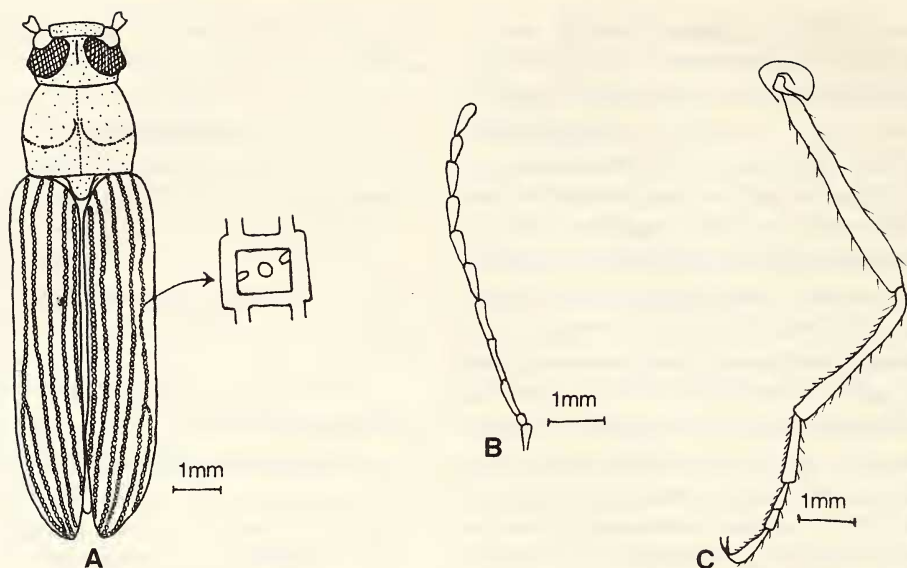


Fig. 10: *Thranus simplex* Gahan: A. Whole body, B. Antenna, C. Hind leg

Body length: 12 mm.

Material examined: 1 male, SB, B.T.R., Jalpaiguri, West Bengal, 20.v.1997.

Distribution: INDIA: Manipur (Gahan, 1906), West Bengal; Bhutan; Myanmar (Gahan, 1906).

Subfamily 2: Prioninae

Tribe: Megopidini

Genus: *Megopis* Serville

Megopis Serville, 1832, Ann. Soc. Ent. Fr. i : 162.

Type-species: *Megopis mutica* Serville

***Megopis (Aegosoma) bowringi* (Gahan)**
(Fig. 11)

Aegosoma bowringi Gahan, 1894, A.M.N.H. 14 (6): 226.

Male: Reddish brown; densely clothed with short faint brown pubescence, elytral costae free.

Head narrower than pronotum, elongate behind, eyes more or less inclined in front, densely warty and with deeply distinct midlongitudinal black sulcus; vertex flat; frons anteriorly sloped, posteriorly weakly concave;

clypeus transverse; HW/PA 0.87; FA/FL 0.59; mandibles short, oblique, toothless; eyes narrowly emarginate in front; gula short, basally broad, anteriorly narrow, either side marked by black ridge. Antennae shorter than body, basal segments densely punctate, apical 3 segments coarsely wrinkled, 1st joint short and stout. 3rd joint longest, subequal to 4+5. Pronotum broadly transverse, wider than long, its warty basal and apical margins nearly straight, lateral margin medially weakly produced, antero-lateral corners weakly produced, rounded, strongly reflexed: PL/PA 0.66, PL/PW 0.59, PB/PA 0.83, PB/EW 2.0. Scutellum nearly globose, densely warty. Elytra broader than pronotum, nearly parallel-sided for the greater part of their length, slightly narrowed posteriorly, rounded at apex, with sutural teeth; EL/EW 8.09; prosternum raised, sloped, on either side extending beyond fore coxae; mesosternum sulcate, midlongitudinally blackish, metasternum broad, plate-like, midlongitudinally with a deeply distinct black sulcus; abdomen ventrally a little paler, densely punctate, segmental joints brown-black, transverse, band-like, clothed with pale brown hairs. Legs moderately long, the hind pair

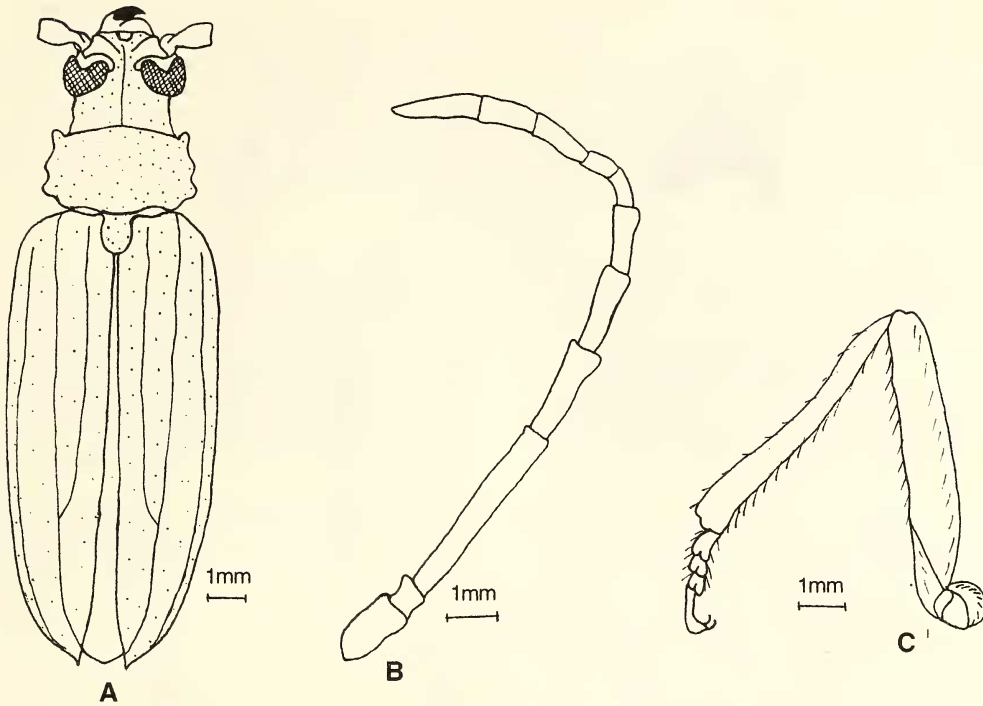


Fig. 11: *Megopis (Aegosoma) bowringi* (Gahan): A. Whole body, B. Antenna, C. Hind leg

longest, femora laterally compressed, with their dorsal and ventral borders nearly parallel, tarsi rather narrow, with the claw joint at least as long as 1+2.

Body length: 20-23 mm.

Material examined: 1 male, RB, B.T.R., 22.v.1995; 1 male, SB(LT), B.T.R., 19.v.1997. Both Jalpaiguri, West Bengal

Distribution: INDIA: Arunachal Pradesh, West Bengal; Bangladesh; Myanmar (Gahan, 1906).

Tribe: Macrotomini

Genus: *Macrotoma* Serville

Macrotoma Serville, 1832, Ann. Soc. Ent. Fr. 2: 264.

Type-species: *Prionus serripes* Fabricius

***Macrotoma (Zooblax) spinosa* Fabricius (Fig. 12)**

Prionus spinosus Fabricius, 1787, Mant. Ins. 1: 130.

Male: Red brown, elytra rusty brown towards base and yellowish towards apex, antennae with three basal segments brown-black, legs reddish, venter glossy red.

Head elongate behind eyes, coarsely punctate between eyes, closely and finely granulate behind, vertex impressed with a median groove; frons punctate, midlongitudinally sulcate due to bulging antennal tubercles, anteriorly vertical and truncate; clypeus depressed, limited above by an impression, weakly punctate; shorter than width of pronotum; HW/PA 0.61; FA/FL 0.76; mandibles vertical, straight at base, incurved at tip, each with 2 teeth on inner edge, punctate; eyes not deeply emarginate on front; venter warty. Antennae 11-segmented, reaching basal 2/3 of elytra, 1st joint apically broad, basally pedunculate, twice as long as broad, closely and coarsely punctate, 3rd segment more than twice

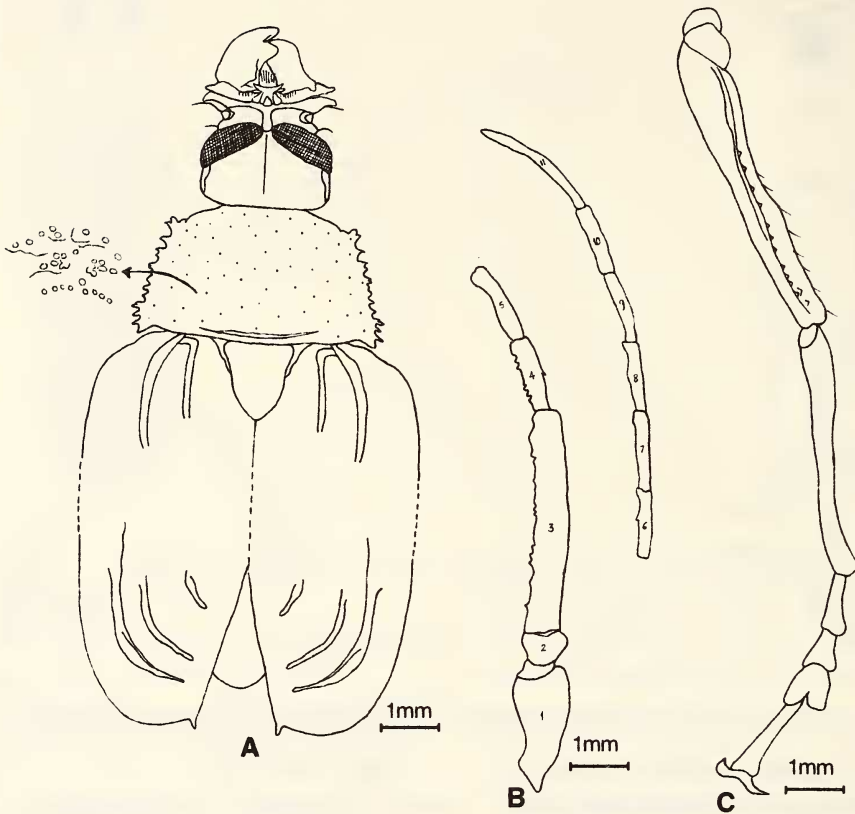


Fig. 12: *Macrotoma (Zooblax) spinosa* (Fabricius): A. Whole body, B. Antenna, C. Hind leg

as long as 1st, 4th onwards shorter, 11th much longer, spinose beneath and along the front margin, the spines rather short, 4th weakly spinose. Pronotum rather strongly deflexed at sides just before the middle, very closely and finely punctate and opaque, with 2 triangular spaces before the middle, a small spot external to each of these, a narrow transverse band near base, a median streak from the middle and an oblique band from each end of the basal band, all more or less strongly lustrous, lateral edges armed with a series of short spines and teeth, basally broad, apically narrowed; PL/PA 0.80, PL/PW 0.53, PB/PA 1.50, PB/EW 2.14. Scutellum long, tongue-shaped. Elytra much

longer than broad, rounded at apex, usually dentate at suture, rugulose-punctate and very finely granulose, the granules more distinct and the surface rough towards base, especially on the slightly elevated part near scutellum, each with 4 longitudinal striae; EL/EW 6.00; prosternum sloped on either side, mesosternum at apex slightly clubbed, metasternum plate-like, medially sulcate with a longitudinal black streak. Legs long, spinose beneath; fore femora and tibiae asperate with short sharp spines beneath, those on mid and hind legs reduced and punctate; middle and hind femora sparsely punctate, armed with a few spines beneath, 1st joint of front tarsus a little shorter than 2+3.

Body length: 56 mm.

Material examined: 1 male, JY(LT),
B.T.R., Jalpaiguri, West Bengal, 25.v.1996.

Distribution: INDIA: Bihar, Karnataka
(Gahan, 1906), West Bengal; Arabia; Laos; Sri
Lanka; (Gahan, 1906; Gressitt and Rondon, 1970).

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